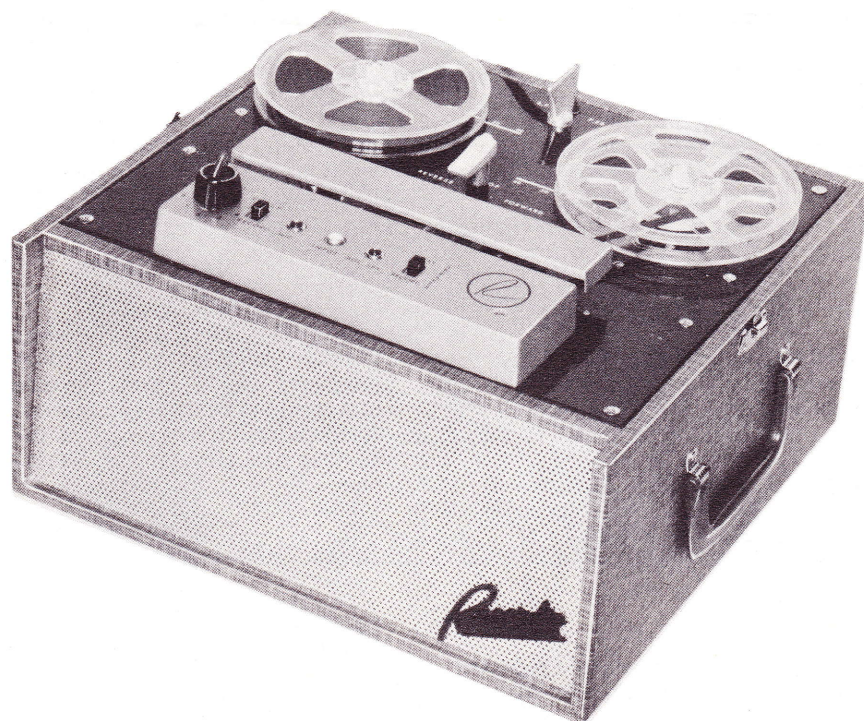
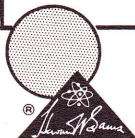




GENERAL INFORMATION

The Recordio Model 210 is a dual-speed tape recorder designed to record and play dual-track monaural recordings.

The dual-track recording feature allows two separate sound tracks to be recorded on a reel of tape. Any size reel up to 7 inches can be used. Recordings can be made from a radio, television receiver, phonograph, or telephone, in addition to those made directly from the microphone.

This recorder has two tape speeds, $7\frac{1}{2}$ - and $3\frac{3}{4}$ - inches per second.

This recorder is designed to operate on 108 to 120 volt, 60 cycle, AC supply only.

Manufactured By:

Recordio Corporation
Charlotte, Michigan

HOWARD W. SAMS & CO., INC. Indianapolis 6, Indiana

The listing of any available replacement part herein does not constitute in any case a recommendation, warranty or guaranty by Howard W. Sams & Co., Inc., as to the quality and suitability of such replacement part. The numbers of these parts have been compiled from information furnished to Howard W. Sams & Co., Inc., by the manufacturers of the particular type of replacement CQ490



part listed. Reproduction or use, without express permission, of editorial or pictorial content, in any manner, is prohibited. No patent liability is assumed with respect to the use of the information contained herein. ©1963 Howard W. Sams & Co., Inc., Indianapolis 6, Indiana.

Printed in U.S. of America

FUNCTION OF CONTROLS

Off-Volume Control

When rotated clockwise, power is applied to the transport and amplifier. This control also varies the playback volume and recording level.

Reverse-Stop-Forward Control

Turning the control to the left, or Reverse position, rewinds the tape from the take-up reel back to the supply reel. Turning the control to the right, or Forward position, places the unit in the Play or Record position. The center or Stop position places the transport in the neutral position.

Play-Record Switch

In the Play position, the amplifier is set up to play back prerecorded material. In the Record position, the amplifier is set up to record material and erase prerecorded material.

CAUTION: This switch must be in the Play position whenever any function except Record is used. Otherwise, complete erasure of the tape will result.

Mic. Jack

This jack serves as the input when recording from the microphone or when using the recorder as a public address system.

Input Jack

This jack serves as a low level input for recording from radio, TV, or phonograph. The Input Jack also serves as a low level output jack for playing tapes through an external amplifier system.

Aux. Speaker Jack

This jack provides a connection for external speakers. When an external speaker plug is inserted in this jack, the speaker in the tape recorder is automatically disconnected.

Speaker Switch

When recording from the microphone, place the Speaker switch in the Record position. This prevents the possibility of squeal or feedback. When recording from a radio, TV receiver, or phonograph, the Speaker switch can be left in the Play position if it is desired to monitor the material being recorded on the tape.

Speed Control

The speed knob should point to 7.50 or 3.75 (ips) according to the speed desired. Do not turn the speed knob unless the Reverse-Stop-Forward control is in the Stop position.

OPERATING INSTRUCTIONS

Threading the Tape

1. Place a reel of tape on the supply (left) spindle making sure the reel slots catch the protrusions of the spindle.
2. Place an empty reel on the take-up (right) spindle, again making certain the reel slots catch the protrusions of the spindle.
3. Unwind about 14 inches of tape from the supply reel. Hold a section straight with both hands and insert the tape in the tape slot, making sure the dull side of the tape faces the rear of the unit.
4. Insert the free end of the tape into one of the slots in the hub of the reel and rotate the reel several times to take up any slack and secure the tape to the reel.

To Record from a Microphone

1. With the Reverse-Stop-Forward knob in the Stop position, turn the Off-Volume control clockwise until a click is heard. Allow about 30 seconds for the amplifier to warm up.
2. Insert the microphone plug into the Mic. jack.
3. Place the Speaker switch in the Record position.
4. Place the Play-Record switch in the Record position.

5. Set the Off-Volume control between 2 and 4 on the numbered scale. The volume level for recording will vary with strength of your voice. Practice making recordings until the proper level is found.
6. Place the Reverse-Stop-Forward knob in the Forward position.
7. While holding the microphone about 3 to 4 inches from the mouth, speak in a normal, clear tone of voice.
8. When the recording is completed, turn the Reverse-Stop-Forward knob to the Stop position.

To Rewind the Tape

Turn the Reverse-Stop-Forward knob to the Reverse position. The tape will be transported back to the supply reel at a fast rate of speed. When it is desired to play a certain portion of the tape over again, it is not necessary to rewind the entire reel.

To Record from Radio, Television Receiver, or Phonograph

While it is possible to record sound from an external source simply by placing the microphone in front of the speaker, this method is not recommended as background noises will be recorded along with the desired program material.

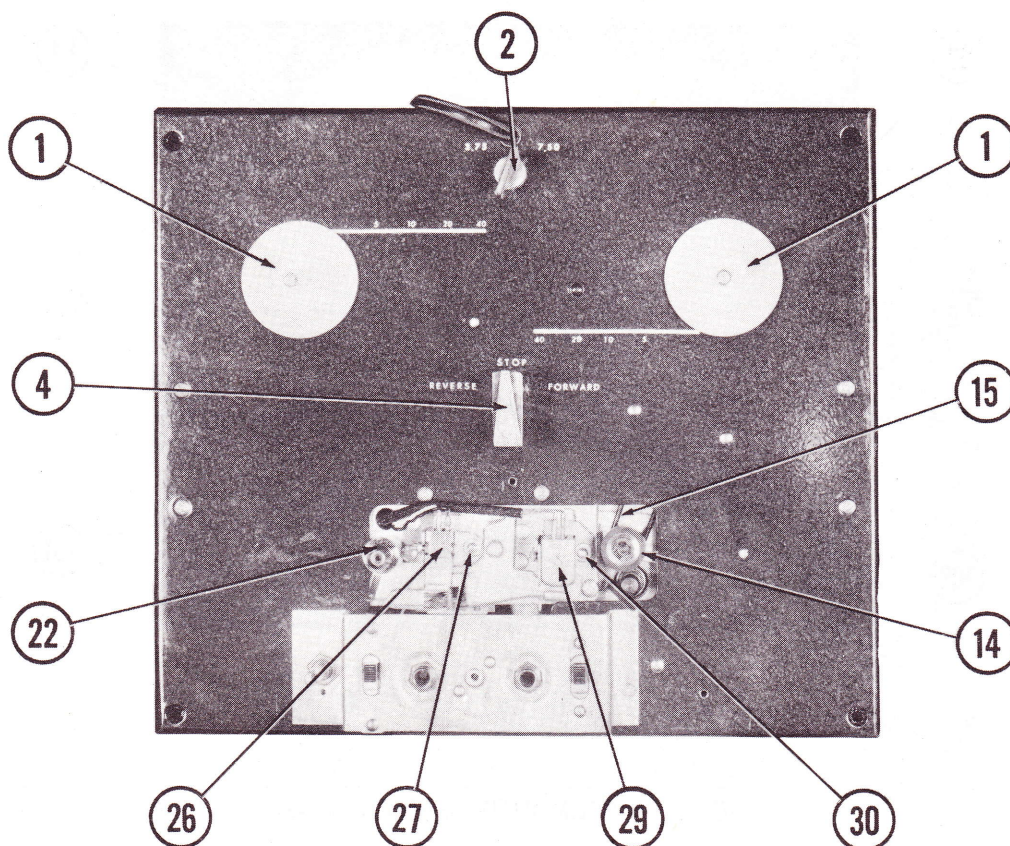


FIG. 1 TOP VIEW OF MECHANISM WITH COVERS REMOVED

For noise-free recordings, record directly from the speaker voice-coil terminals of the radio, TV receiver, or phonograph. Use a patch cord with a phono-plug on one end and alligator clips on the other end.

1. Insert the phono-plug into the Input jack on the tape recorder and clip the alligator clips across the voice coil of the speaker of the external source.
2. Adjust the volume of the external source to normal room volume. Set the tone control to the maximum treble position.
3. Proceed with the recording as described under "To Record from a Microphone".

NOTE: Remove the patch cord after recording is completed.

When recording from an external source, the signals being impressed on the tape can be monitored while recording by placing the Speaker in the Play position.

To Use Second Track

1. Place the Reverse-Stop-Forward knob in the Stop position after all the tape has been wound on the take-up reel.
2. Remove the full take-up reel, turn the reel over and place it on the supply spindle.

3. Place empty reel on the take-up spindle.

4. Thread the tape and proceed with the recording as previously described.

To Erase Tape

When the recorder is placed in the record position, the erase head is activated and will automatically erase prerecorded material while a new recording is being made. If it is desirable to erase prerecorded material without recording new material on the tape, follow the recording procedure, however; do not connect any input source and leave the volume control at the minimum point.

To Play Recordings

1. Thread the tape as described under "Threading the Tape".
2. Set the speed control to the speed at which the recording was made.
3. Place the Play-Record switch and the Speaker switch in the Play position.
4. Move the Reverse-Stop-Forward control to the Play position.
5. Adjust the volume control to the desired listening level.

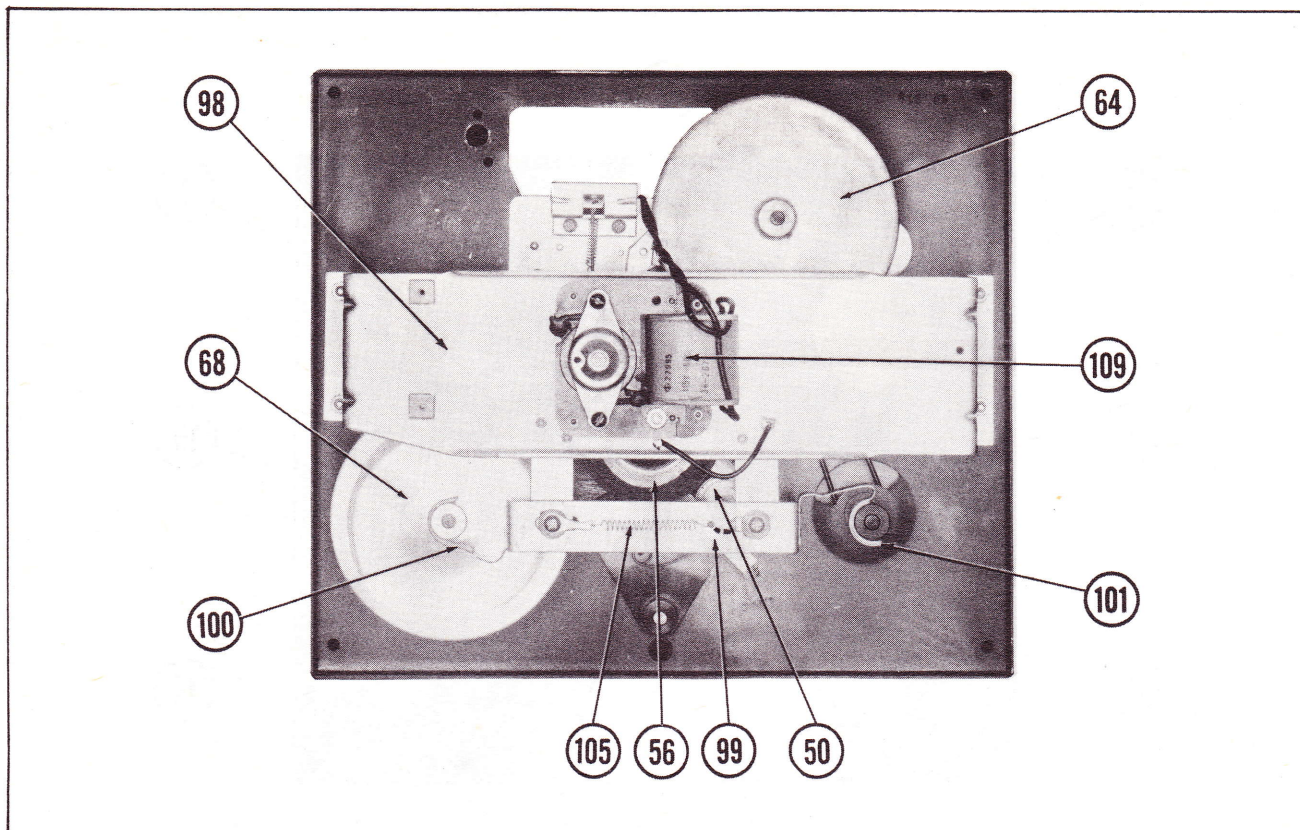


FIG. 2 BOTTOM VIEW OF MECHANISM

DISASSEMBLY

1. Remove the Phillips head screws from each top corner of the top plate (20).
2. Lift the tape transport and amplifier partially out of the cabinet. Unplug the speaker leads before removing the unit completely.

ADJUSTMENTS

Pressure Pad Adjustment

1. Remove front escutcheon (9).
2. Place the Reverse-Stop-Forward control in the Forward position. Leave the power off.
3. Using a pencil-type postal scale, check the amount of pressure required to just pull the right-hand pad away from the Record-Playback head (29). If necessary, adjust locked adjustment screw (37) until a reading of 1-oz. $\pm$ 1/4 oz. is obtained.
4. Measure the erase pad pressure as described in Step 3 and if necessary, adjust by bending the erase pressure pad spring.

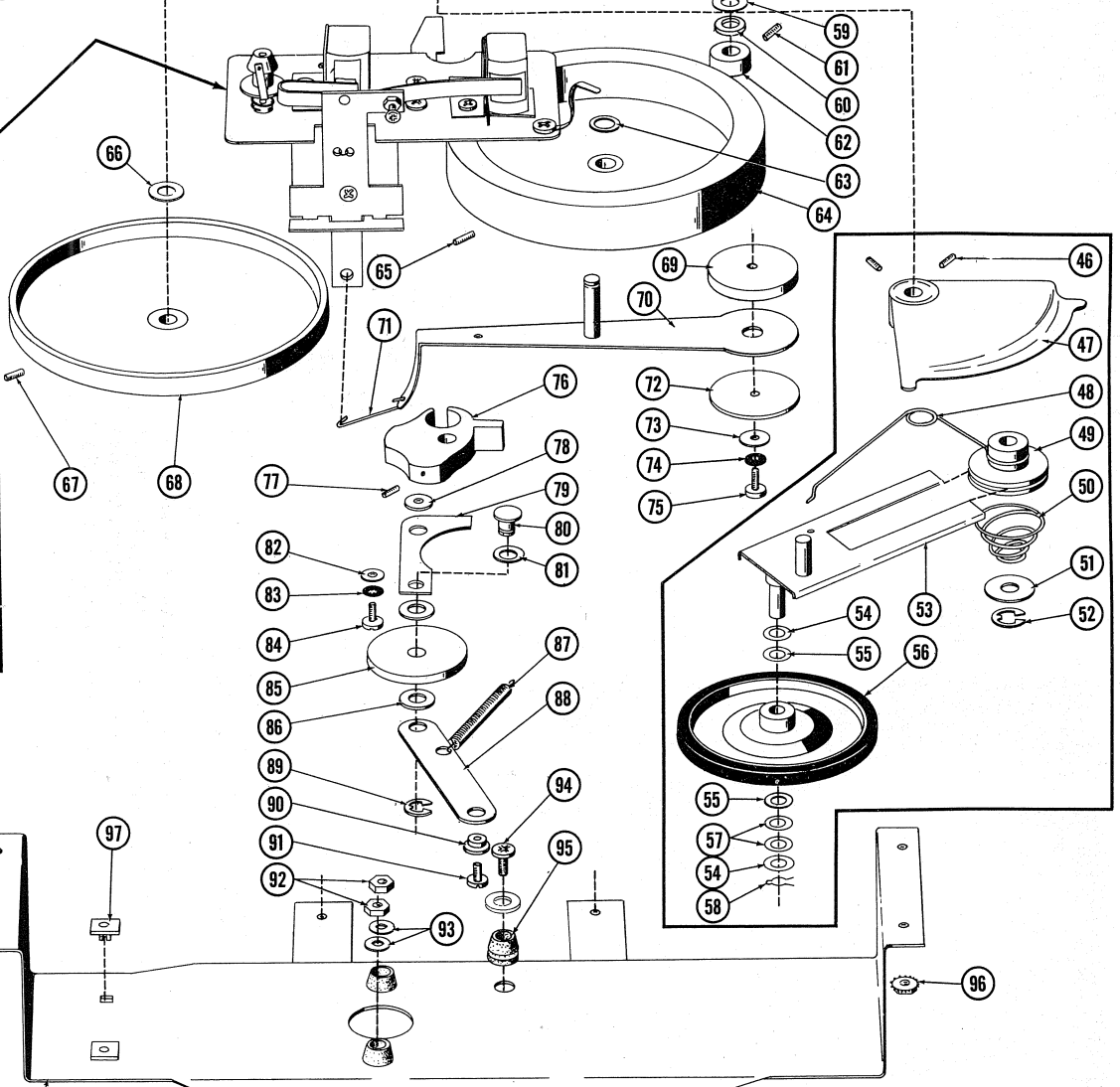
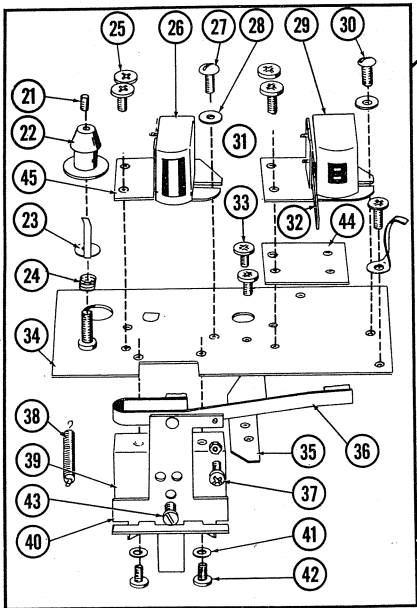
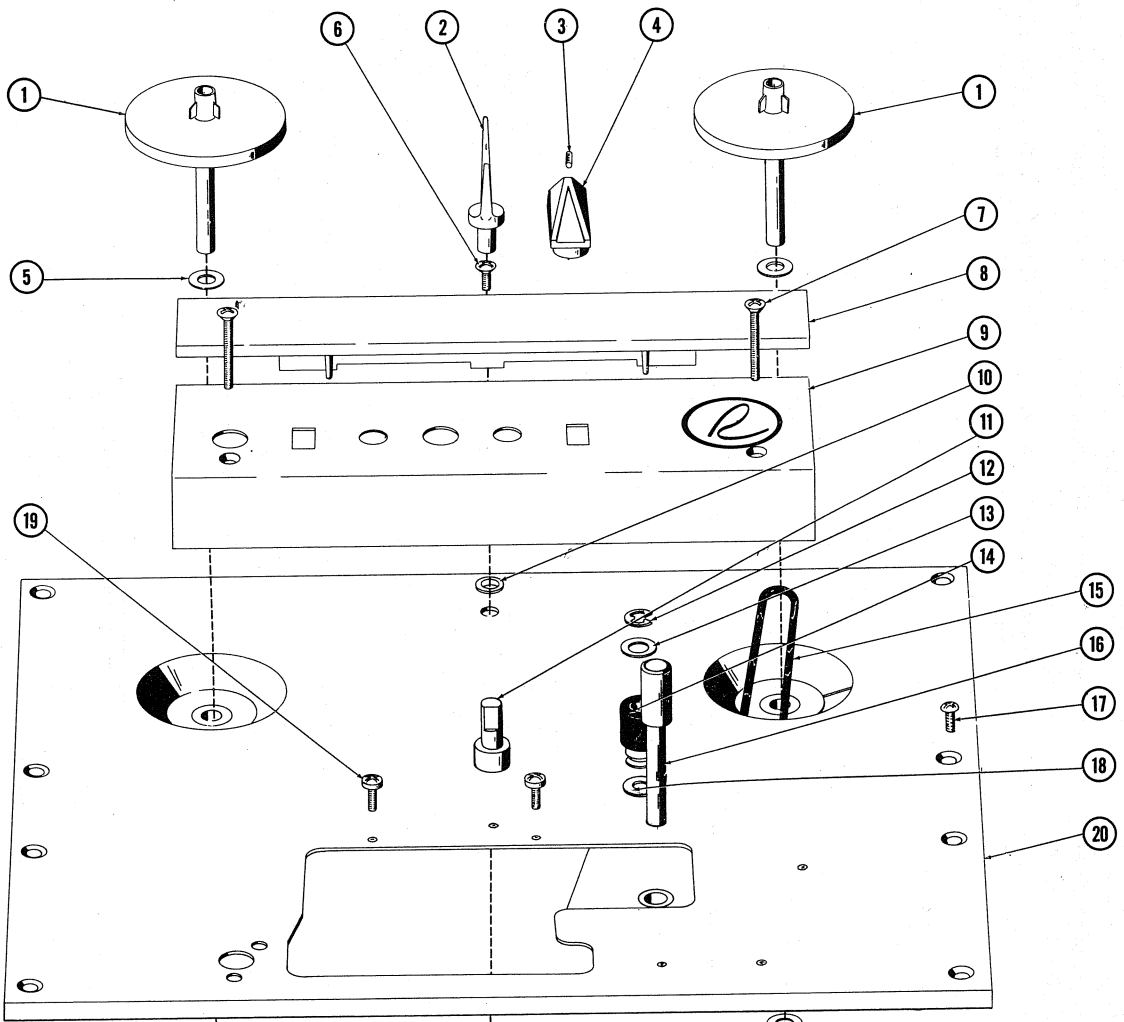
Brake Shoe Adjustment

1. With the Reverse-Stop-Forward control in the Reverse or Forward position, the brake pads (100) and (101) should clear the brake drums by approximately 1/16 inch.

2. Move the Reverse-Stop-Forward control in the Stop position while observing the brake pads. Both brake pads must contact the brake drums at the same time and with equal pressure.
3. If adjustment is necessary, adjust by bending the copper colored brake springs.

Erase Head Adjustment

1. With tape properly threaded, turn the recorder on and move the Reverse-Stop-Forward control to the Forward position. Allow the tape to run for a few seconds, then turn the recorder off.
2. With the front escutcheon (9) and rear escutcheon (8) removed, check to see that the top edge of the tape is even with the top edge of the erase head pole piece. If adjustment is necessary, loosen the erase head mounting screws and raise or lower the erase head to the proper level.
3. Check to see if the top edge of the erase head is parallel with the top edge of the tape. If not,



A PHOTOFACT "EXPLODED" VIEW
©Howard W. Sams & Co., Inc. 1963

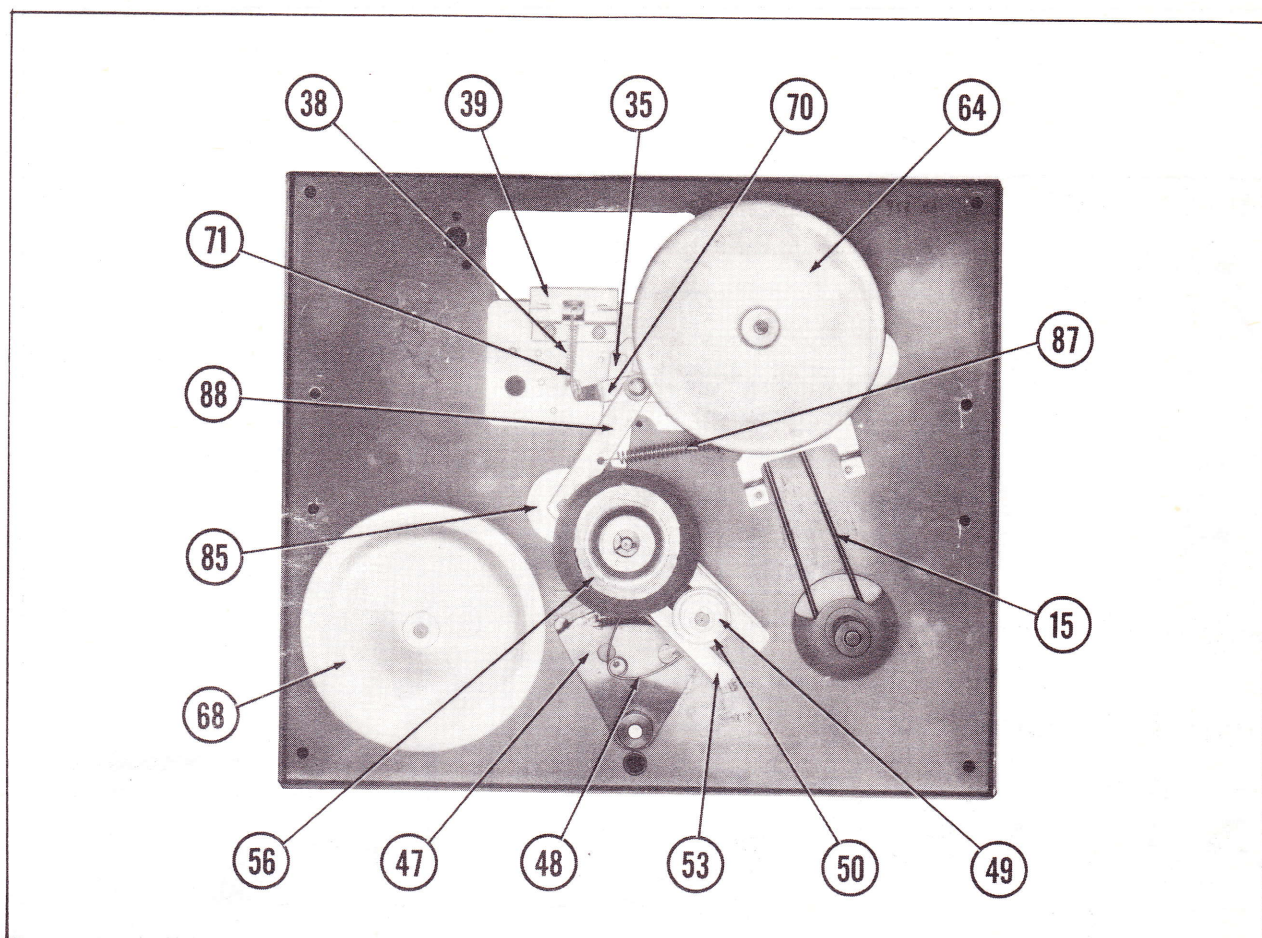


FIG. 3 BOTTOM VIEW OF MECHANISM

adjust by turning screw (27) until top edge of the erase head is parallel with the tape.

Record-Playback Head Alignment

1. Remove front escutcheon (9) and rear escutcheon (8).
2. Thread an alignment tape on the transport.

3. Connect a VTVM to the Aux. Spk. jack. Set the meter to the AC, 3-volt scale.

4. Place the recorder in the Forward position at 7 1/2 ips. Adjust volume to obtain an output reading of 1-volt. Turn record-playback head adjustment screw (30) until a maximum reading is obtained.

CLEANING

The record-playback head (29), erase head (26), and pressure roller (14), are subject to an accumulation of tape oxide, which is worn off the tape as it passes these parts. This accumulation should be

periodically removed since it will cause faint recording and poor playback. Wipe these surfaces carefully with a soft cloth dampened with alcohol or a commercial head cleaner.

LUBRICATION

All rotating parts are provided with generous size "oilite" bearings which are saturated with oil at the time of manufacture. Under normal use, no further lubrication is necessary. In heavy duty service, the following parts should be lubricated once a year with a drop of #10 motor oil.

1. The top and bottom motor bearings.
2. The capstan bearing.
3. Pressure roller (14) bearing.

4. Idler wheel (56) bearing.
5. The reel spindle (1) bearings.
6. Idler slide bushing (49) shaft.

After lubricating these parts, wipe away any excess oil to prevent the possibility of the oil transferring to drive surfaces.

TROUBLE CHART

SYMPTOM	CAUSE	REMEDY
Transport does not function in any mode.	1. Motor (109) defective. 2. Motor pulley (106) loose on motor shaft.	1. Repair or replace motor (109). 2. Tighten motor pulley set screw (107).
Tape fails to wind on take-up reel during play or record.	1. Pressure roller (14) does not engage capstan shaft. 2. Take-up drive belt (15) broken. 3. Idler tension spring (48) disconnected or broken.	1. Replace cam follower spring (87). 2. Replace take-up drive belt (15). 3. Reconnect tension spring (48).
Tape spills when Reverse - Stop - Forward control is placed in Stop.	1. Brakes not adjusted properly. 2. Felt brake pads (100 or 101) worn or missing.	1. Adjust brakes as described under "Brake Shoe Adjustment." 2. Replace brake pads.
"Wow" during operation of recorder.	1. Foreign matter or oil on driving surfaces.	1. Clean all driving surfaces with a clean cloth and alcohol.
"Flutter" during operation of recorder.	1. Dirty record - playback head (29), capstan shaft, or pressure roller (14).	1. Clean as described under "Cleaning."
No erase or incomplete erasure.	1. Dirty erase head (26). 2. Erase head (26) defective. 3. Erase head (26) not adjusted properly. 4. Erase pressure pad not exerting sufficient pressure against erase head.	1. Clean with soft cloth and alcohol. 2. Replace erase head (26). 3. Adjust as described under "Erase Head Adjustment." 4. Adjust as described under "Pressure Pad Adjustment."
Does not record.	1. Faulty microphone or cord. 2. Faulty amplifier component. 3. Defective record-playback head (29).	1. Replace if necessary, after checking with another type of input. 2. Check amplifier and make necessary repairs. 3. If defective, replace head.

MECHANICAL PARTS LIST

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
1	C-13.318-5	Reel Spindle & Shaft Ass'y.	22	B-32.300	Tape Guide Post
2	B-13.462-1	Speed Shift Knob	23	B-33.325	Solder Lug
3	57-3439-0	Screw, #6-32 x 3/16" Bristol Hd.	24		Spring, Tape Guide Compression
4	B-13-463-1	Knob, Function Shift	25	57-1C-602-1	Screw #6-32 x 1/8" B. H. M. S.
5	73-2340	Washer, Varnish Impregnated	26	B-36.264	Head, Erase
6	57-4C-605-5	Screw, #6-32 x 3/8" O. H. M. S.	27	57-16C-404-1	Screw, #4-40 x 1/4" R. H. M. S.
7	57-4C-618-5	Screw, #6-32 x 1 1/8" O. H. M. S.	28	73-2241-134	Washer, Steel
8	C-13.461	Escutcheon, Rear	29	B-36.251	Record-Playback Head
9	C-13.460	Escutcheon, Front	30	57-16C-404-1	Screw, #4-40 x 1/4" R. H. M. S.
10	B-28.138	Grommet, Fiber	31	B-35.1383-1	Record Hd. Mounting Bracket
11	B-32.475	Shift Control Shaft	32	B-19.1689	Tape Guide Post
12	B-33.418-3	"E" Ring, 3/16" Shaft	33	57-1C-602-1	Screw, #6-32 x 1/8" B. H. M. S.
13	B-28.163	Washer, Linen	34		Head Mounting Plate Ass'y.
14*	B-33.404*	*Pressure Roller	35	B-19.1649	Cam Stop Adjusting Plate
15*	B-28.207*	*Take-up Belt	36		Pressure Pad & Spring Ass'y.
16		Capstan Shaft	37	57-6C-605-2	Screw, #6-32 x 5/16" R. H. M. S.
17	57-4C-605-5	Screw, #6-32 x 3/8" O. H. M. S.	38	B-31.338	Spring Pressure Pad Actuating
18	B-16.104	Washer, Brass	39	B-19.1647	Pressure Pad Hinge Mtg. Brkt.
19	57-1C-603-1	Screw, #6-32 x 3/16" B. H. M. S.	40	B-19.1648	Lever, Pressure Pad
20	E-19.1730	Baseplate	41	73-2231-4	Lockwasher, #6 Internal
21	57-3439-0	Screw, #6-32 x 3/16" Bristol Hd.	42	57-1C-603-1	Screw, #6-32 x 3/16" B. H. M. S.

MECHANICAL PARTS LIST (CONT'D.)

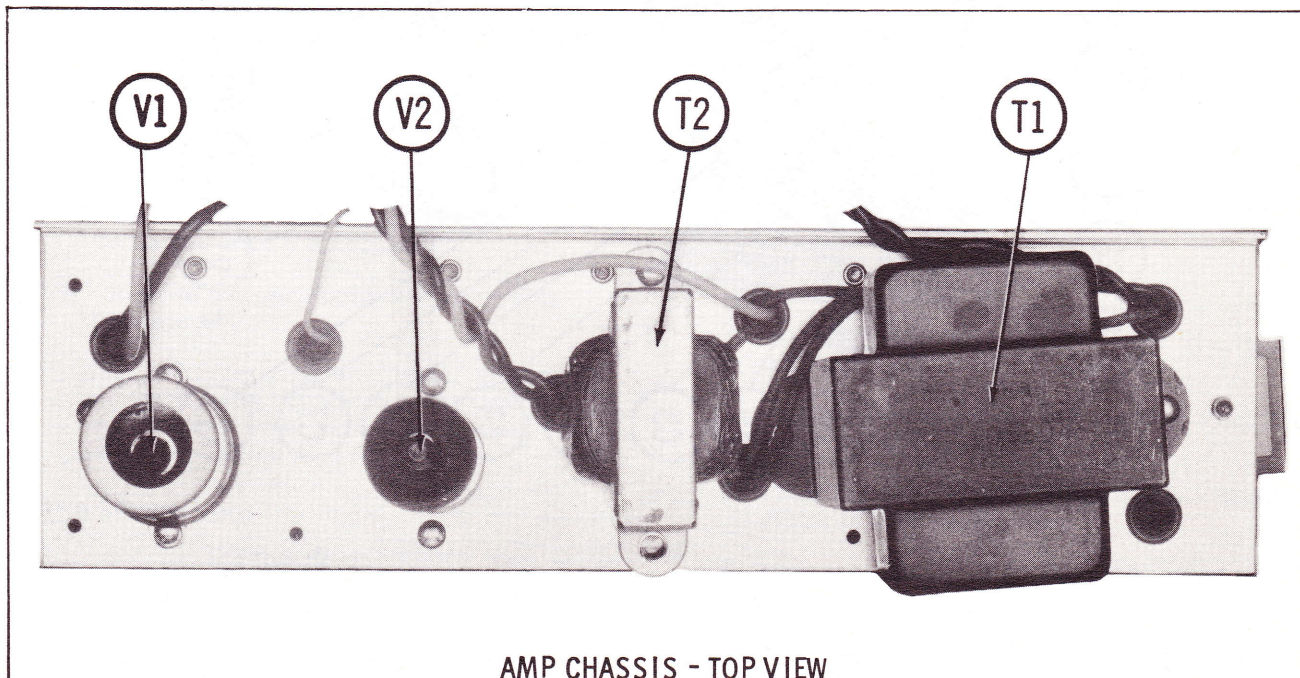
Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
43	57-6C-604-1	Screw, #6-32 x 1/4" R. H. M. S.	75	57-1C-807-1	Screw, #8-32 x 7/16" B. H. M. S.
44	B-19.1597	Shim, Record-Playback Head	76	C-19.1661	Cam, Function Shift
45	B-35.1383-2	Erase Hd. Mtg. Brkt. Assembly	77	57-3698-0	Set Screw, #8-32 x 3/16"
46	57-3698-0	Screw, #8-32 x 3/16" Bristol Head Set Screw	78	B-32.476	Washer, Shouldered
47	B-19.1662	Speed Shift Cam	79	B-19.1642	Cam Follower Link
48	B-31.491	Spring, Idler Tension	80	B-32.460	Pin, Cam Follower Link
49	B-32.466	Idler Slide Bushing	81	73-2243-75	Washer, Brass
50	B-31.327	Spring, Idler Lift Compression	82	73-2241-74F	Washer, Steel
51	73-2241-143	Washer, Steel	83	73-2231-4	Lockwasher, #8 Internal
52	B-33.418-1	'E' Ring, 1/4" Shaft	84	57-7C-804-1	Screw, #8-32 x 7/16" Phillips Hd.
53	B-19.1630	Idler Pulley Slide Plate	85	B-32.471	Cam Follower
54	73-2241-150	Washer, Steel	86	73-2243-75	Washer, Brass
55	73-2340	Washer, Varnish Impregnated	87	B-31.473	Spring, Cam Following
56*	B-33.408*	*Idler Wheel, 2 1/2" Diameter	88	B-19.1641	Cam Following Link
57	B-28.163	Washer, Linen	89	B-33.418-1	'E' Ring, 1/4" Shaft
58	B-33.409	Hair Pin Clip	90	B-32.476-1	Washer, Shouldered
59	73-2340	Washer, Varnish Impregnated	91	57-1C-803-1	Screw, #8-32 x 3/16" B. H. M. S.
60	73-2248-39	Washer, Phenolic	92		Nut
61	57-3690-0	Set Screw, #8-32 x 3/16"	93		Washer
62	B-32.477	Space Bushing	94	57-6C-608-1	Screw, #6-32 x 1/2" R. H. M. S.
63	73-2248-39	Washer, Phenolic	95	B-28.186	Grommet, Rubber
64	C-13.257	Flywheel	96	48-2219-1	Nut, #6-32 Keps Hex
65	57-3698-0	Set Screw, #8-32 x 3/16"	97	B-33.627	Grommet, Plastic
66	73-2340-1	Bristol Head	98	D-19.1643	Drive Mounting Plate
67	57-3589-1	Washer, Linen	99	B-35.1405-1	Brake Slide Plate Assembly
68	C-35.1050-1	Set Screw, #8-32 x 1/4"	100	B-31.492-2	Felt Brake Pad (Long)
69	B-32.473	Bristol Head	101	B-31.492-1	Felt Brake Pad (Short)
70	C-19.1640-1	Brake Drum Assembly	102	B-32.479-1	Washer, Shouldered
71	B-31.494	Pressure Roller Plate Spacer (Top)	103	44-122-8	#8 Internal Locking Terminal
72	B-32.472	Pressure Roller Plate	104	57-6C-806-1*	Screw, #8-32 x 3/8" R. H. M. S.
73	73-2241-74F	Linkage Arm (Pressure Pad)	105	B-31.338	Spring, Brake Return
74	73-2231-5	Pressure Roller Plate Spacer (Bottom)	106		Motor Pulley
		Washer, #8	107		Set Screw
		Lockwasher, #8 Internal	108	B-19.1645	Bracket, Motor Support
			109	36.267	Motor

* Pressure Roller, WALSCO Part #1457

* Idler Wheel, WALSCO Part #1430

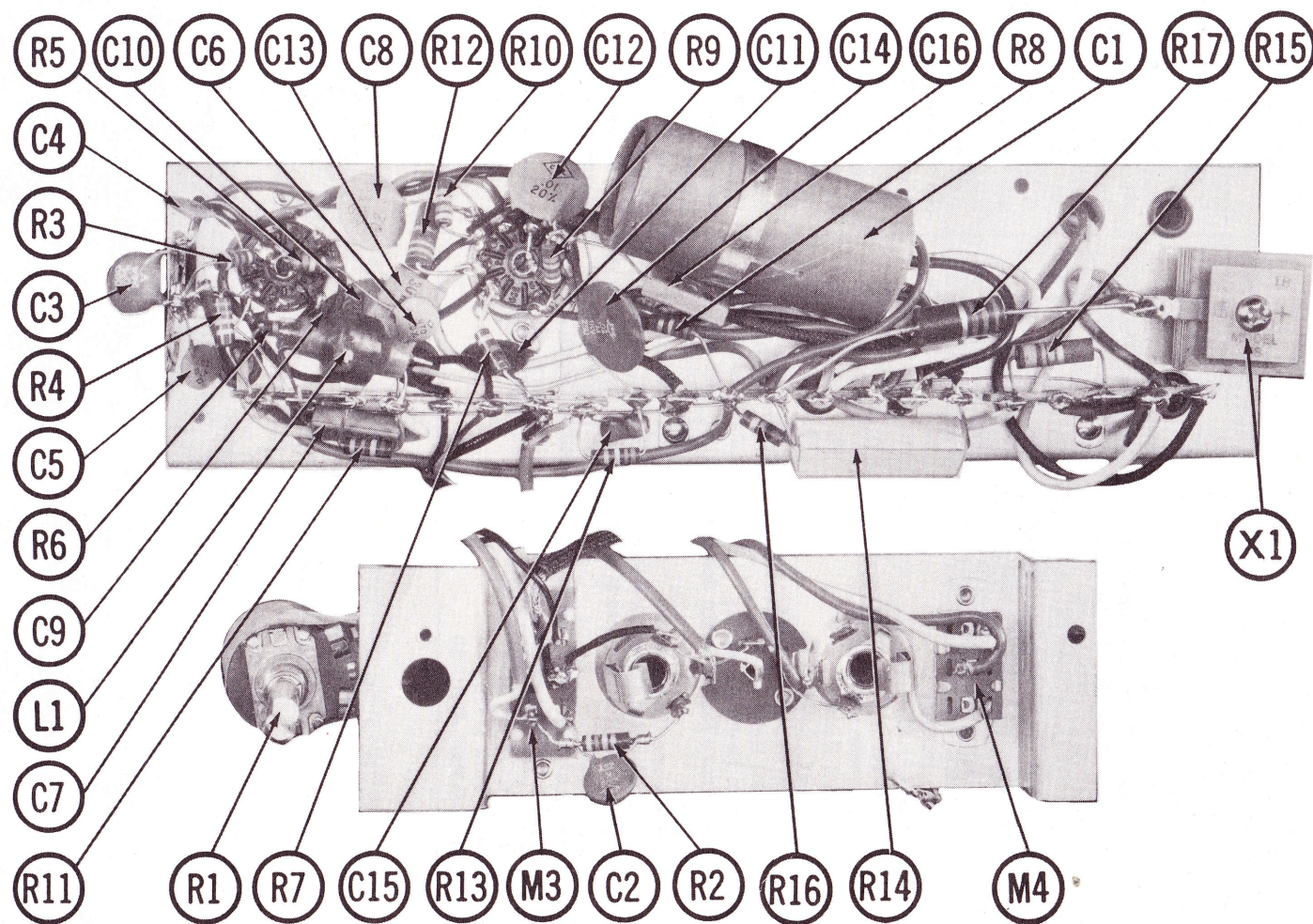
* Take-up Belt, WALSCO Part #1410-50

RECORDIO
MODEL 210



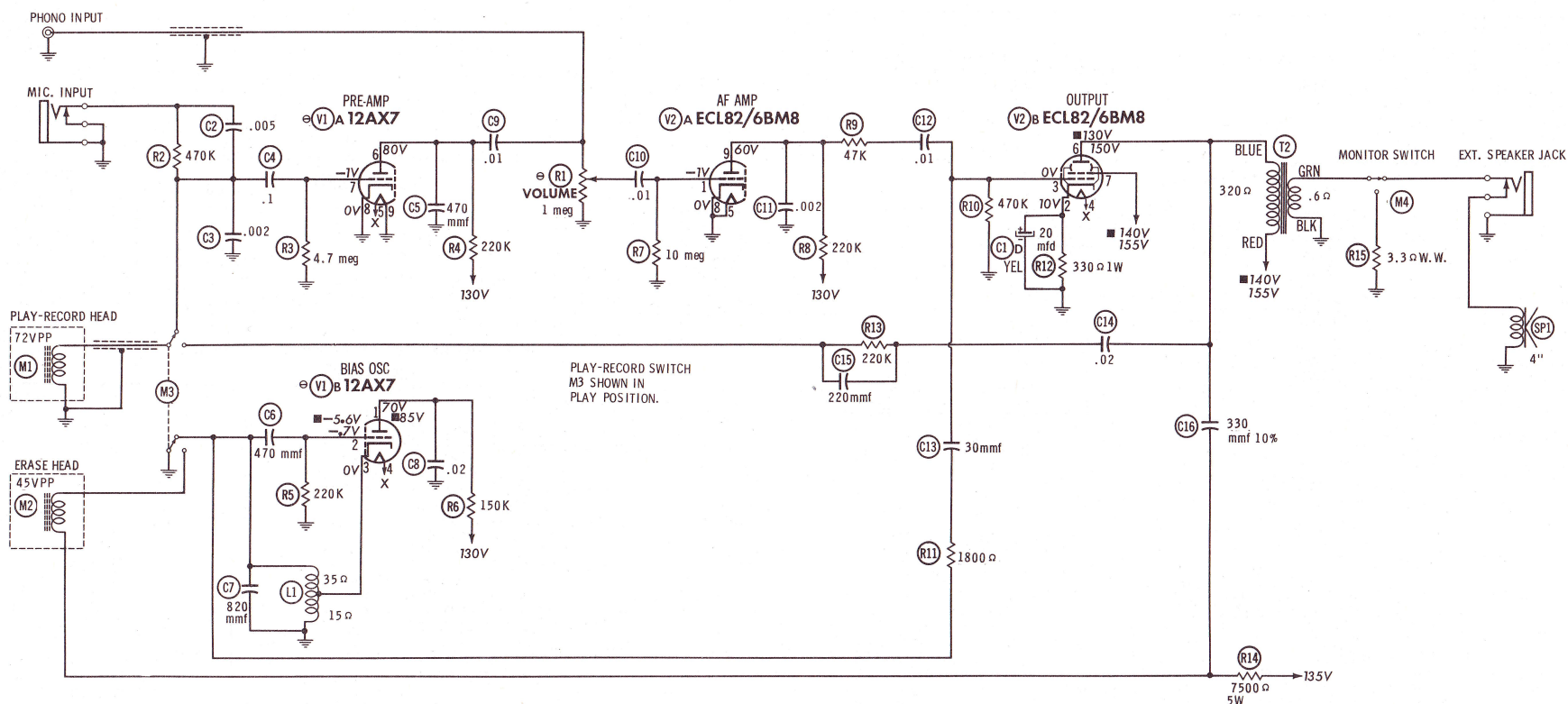
AMP CHASSIS - TOP VIEW

FOLDER 11



AMP CHASSIS -- BOTTOM VIEW

RECORDIO MODEL 210



RESISTANCE READINGS

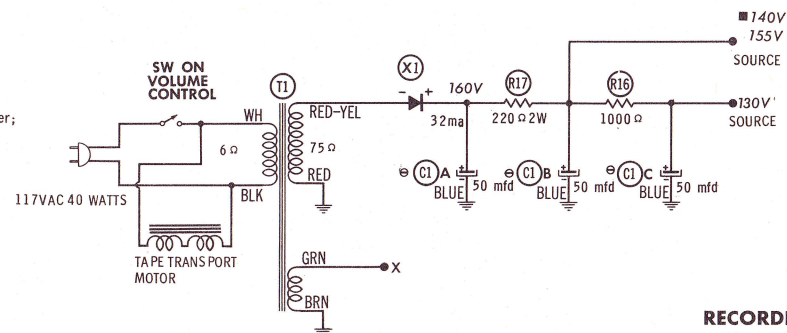
ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V1	12AX7	† 150K	220K	10 Ω	0 Ω	0 Ω	220K	4.7 Meg.	0 Ω	0 Ω
V2	ECL82/ 6BM8	10 Meg.	330 Ω	470K	0 Ω	0 Ω	† 550 Ω	† 220 Ω	0 Ω	† 220K

All Voltage Measurements Taken In "Play" Unless Otherwise Designated.

■ Taken In "Record" Position.

† Measured From Output Of X1.

1. DC voltage measurements taken with vacuum tube voltmeter; AC voltages measured with 1000 ohm per volt voltmeter.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common ground.
4. Line voltage maintained at 117 volts for voltage readings.
5. Nominal tolerance of component values makes possible a variation of ±15% in voltage and resistance readings.
6. All controls at minimum, proper output load connected.



RECORDIO
MODEL 210

SEE PARTS LIST FOR ALTERNATE
VALUE OR APPLICATION
A PHOTOFACT STANDARD NOTATION SCHEMATIC
©Howard W. Sams & Co., Inc. 1963

PARTS LIST AND DESCRIPTION

TUBES

* AMPEREX *			* GENERAL ELECTRIC *			* RCA *			* RAYTHEON *			* SYLVANIA *		
ITEM No.	USE		TYPE		ITEM No.	USE		TYPE		ITEM No.	USE		TYPE	
V1	Preamp. -Bias Osc.		12AX7 (ECC83) *		V2	AF Amp. -Output		ECL82/6BM8						

* Alternate

POWER RECTIFIERS & SIGNAL DIODES

ITEM No.	CURRENT RATING (Measured)	ORIGINAL Part or Type No.	RECTIFIERS		DIODES	NOTES
			RCA PART No.	SARKES TARZIAN PART No.	RAYTHEON PART No.	
X1	.032A	B-22.105*	1N1763 †	78*		* Selenium † Silicon

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						
	CAP.	VOLT.	RECORDIO PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	PYRAMID PART No.	SPRAGUE PART No.
C1A B C D	50 50 50 20	150 150 150 25	C-5, 482-1 ①	PRS4575 PRSI480	BBRQ55515C	QT3-8 QTI-9	TCT3118 TC45	TMQ-4059	TVL-4425

① Part #5, 482-2 used in some versions.

FIXED CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C2	.005		BPD-005	DD-502	BYA10D5	CCD-502	B-250	5HK-D50
C3	.002		BPD-002	DD-202	BYA10D2	CCD-202	B-220	5HK-D20
C4	.1			UK10-104	H-05PI		TA-010	HY-320
C5	470		DI-470	DD-471	BYA10T47	CCD-471	B-347	10TS-T47
C6	470		DI-470	DD-471	BYA10T47	CCD-471	B-347	10TS-T47
C7	820		1469-00082		5R5T82	CM-19B-821M	MCB251	MS-382
C8	.02		BPD-02	DD-02	BYB6S2	CCD-203	B-120	5HK-S20
C9	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C10	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C11	.002		BPD-002	DD-202	BYA10D2	CCD-202	B-220	5HK-D20
C12	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C13	30		1469-00003	TCZ-30	22R5Q3	CM-19B-300M	CNO-433	MS-43
C14	.02		BPD-02	DD-203	BYB6S2	CCD-203	B-120	5HK-S20
C15	220		SI 220	D6-221	LI0T22	CCD-221	B-322	10TS-T22
C16	330 10%		1469-00033		5R5T33	CM-19B-331K	MCB241	MS-333

CONTROLS

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA				
			RECORDIO PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1	Volume, On-Off	1meg	C-8, 227-15 ①	B-70-S, (AB-70, AK-7, KR-1)	A47-1meg-Z, FS-3, SW-12	Q13-137, 76-1 (BUL, CF26, SSL, GC)*	U53, US-26, (UA16A, US-41, SL3500)

① Part #C-8, 227-18 used in some versions.

* "SNAPTROL"

RESISTORS

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	RATING	REPLACEMENT DATA			ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN PART No.	REMARKS			IRC PART No.	WORKMAN PART No.	REMARKS
R2	470K				R6	150K			
R3	4.7meg				R7	10meg			
R4	220K				R8	220K			
R5	220K				R9	47K			

RESISTORS (cont)

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	RATING	REPLACEMENT DATA			ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN PART No.	REMARKS			IRC PART No.	WORKMAN PART No.	REMARKS
R10 R11 R12 R13	470K 1800Ω 330Ω 1W 220K				R14 R15 R16 R17	7500Ω 5W 3.3Ω 1000Ω 220Ω 2W	PW5-7500	5W-SQ-7500	

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA					NOTES
		RECORDIO PART No.	Merit PART No.	Miller PART No.	Stancor PART No.	Workman PART No.	
L1	Bias Osc.						

TRANSFORMER (POWER)

ITEM No.	RATING			REPLACEMENT DATA					NOTES
	PRI.	SEC. 1	SEC. 2	RECORDIO PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T1	117VAC ② .8A	140VAC ② .01A	6.3VAC ② 1.1A	C-9, 310					

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
	PRI.	SEC.	RECORDIO PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	
T2	3800Ω	3-4Ω	C-9, 282-4	A-2900	A-3856	22S86	S-41X	

SPEAKER

ITEM No.	TYPE			REPLACEMENT DATA		NOTES
	SIZE	FIELD	V. C. IMP.	RECORDIO PART No.	QUAM PART No.	
SP1	4"	PM	3-4Ω	C-30, 353-1	4A07	

TAPE HEADS

ITEM No.	MEASURED			RECORDIO PART No.	NORTONICS PART No.	DESCRIPTION
	INDUCTANCE	BIAS/ERASE VOLTS (RMS)	BIAS FREQ.			
M1	410MHY	26 Volts	62KC	B-36, 251	#3001 QK-20*	2-Track Monaural R/P Head * Mounting Hardware Kit
M2	8.4MHY	16 Volts	62KC	B-36, 264	#3601 QK-18*	2-Track Monaural Erase Head * Mounting Hardware Kit

MISCELLANEOUS

ITEM No.	PART NAME	RECORDIO PART No.	NOTES
M3	Switch	B-11, 233-1	Play-Record (DPDT Slide Type)
M4	Switch	B-11, 287	Monitor (SPDT Slide Type)

WIRING DATA

General-use Unshielded Hook-up Wire Use BELDEN No. 8530 (Solid) Available in 12 Colors
8524 (Stranded) Available in 12 Colors
Power Cord Use BELDEN No. 17106 (Plastic) or 17126 (Rubber) - 6 Ft.
17109 (Plastic) or 17129 (Rubber) - 9 Ft.
Power Cord (Interlock Type) Use BELDEN No. 8874 (Rubber) or 8895 (Plastic)
Low-Loss Shielded Lead (Interconnecting) Use BELDEN No. 8401 or 8421
Phono Pick-up Arm Cable Use BELDEN No. 8430 (Two Conductor-Unshielded)
8429 (Two Conductor-Shielded)
8419 (Three Conductor-Shielded)